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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Neil Anthony Salmon

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02/01/2010

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EXAMINER

ALLEN, STEPHONE B

ART UNIT

PAPER NUMBER

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MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,117	Applicant(s) SALMON, NEIL ANTHONY	
	Examiner JADE R. CALLAWAY	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,9,10,13 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,9,10,13 and 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/19/05, 6/9/09 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments to the claims, abstract and specification of the disclosure, in the submission dated 6/9/09, are acknowledged and accepted.

Drawings

2. The drawings were received on 6/9/09. These drawings are acceptable.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 3-4, 9-10, 13 and 15-19 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-4, 9-10, 13 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderton et al. (6,587,246) in view of Commault et al. (EP 179687 A1) and Hugenin (5,047,783).

Consider claim 1, Anderton et al. disclose (e.g. figures 1, 3 and 8-10) a millimetre wave imaging apparatus comprising scanning means (1, rotating disk), focusing means (19, reflector lens) and a plurality of receiver elements (6, receiver array) [col. 5, lines 19-24 and 38-54], the focusing means being physically interposed between the scanning means and the receiver means, the scanning means arranged to scan

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millimeter wave radiation from a field of view onto the focusing means in an elliptic fashion (e.g. figure 10), the ellipse having a major and a minor axis of differing size at a focal place, and the receiver elements being arranged as a sparse two dimensional array comprising a plurality of linear arrays [col. 5, lines 19-24], the receivers in each array being adjacent (the receivers are all next to each other in a two-dimensional array) and the minor diameter is approximately equal to half of the spacing between adjacent receivers in a linear array (the open scan pattern can be half of the detector pitch [col. 9, lines 47-55]) [col. 5, lines 38-54]. However, Anderton et al. does not specifically disclose that the scanning means comprises two rotatable prisms or that each linear array has an axis parallel to the minor axis, the major axis being approximately equal to the distance between adjacent linear arrays allowing focused radiation from a region of the field of view to be incident upon at least two of the plurality of receiver elements during a cycle of the scanning means. Anderton et al. and Commault et al. are related as scanning devices. Commault et al. discloses (e.g. figure 1) scanning means that comprises two rotatable prisms (21, 22, prisms) arranged to scan radiation [abstract and the previously provided machine translation of page 12, lines 27-28]. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the scanning device of Anderton et al. to include two rotatable prisms, as taught by Commault et al., in order ensure elevational scanning.

However, the modified Anderton et al. reference does not specifically disclose that each linear array has an axis parallel to the minor axis, the major axis being approximately equal to the distance between adjacent linear arrays allowing focused

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radiation from a region of the field of view to be incident upon at least two of the plurality of receiver elements during a cycle of the scanning means. Anderton et al., Commault et al. and Hugenin are related as scanning devices. Hugenin teaches (e.g. figures 3-4 and 7c) an imaging apparatus wherein each linear array (36, detector array) has a parallel axis to the minor axis (the detectors are aligned in a linear manner such that the axes of the elements are parallel to each other), the major axis being approximately equal to the distance between adjacent linear arrays allowing focused radiation from a region of the field of view to be incident upon at least two of the plurality of receiver elements during a cycle of the scanning means (Different elements can detect signals from different portions of the field of view so that images of the entire field of view can be generated. As shown in figure 7c portions of the radiation can be detected by two elements of the linear array. Thus the major axis is approximately equal to the distance between adjacent linear arrays) [col. 9, lines 45-68]. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of the modified Anderton et al. reference, as taught by Hugenin, in order to provide a relatively uniform response to radiation from all the portions of the field of view.

Consider claims 3-4 and 9, the modified Anderton et al. reference discloses (e.g. figure 1 of Commault et al.) an apparatus wherein each prism is a wedge prism (21, 22, prisms) arranged to rotate in opposite directions to each other and wherein each prism is of a uniform thickness (e.g. figures 13a and 13b) and varying refractive index across a cross-section thereof (in figures 13a and 13b, zones 21 and 22 have the same index

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of refraction that the wedge prism would have, and zones 72, 73, 74, and 75 have an index of refraction in the neighborhood of air) [abstract and the previously provided machine translation of page 12, lines 27-28 of Commault et al.].

Consider claim 10, the modified Anderton et al. reference discloses (e.g. figure 10 of Anderton et al.) an apparatus wherein the prisms are arranged to produce an elliptical scan path in the plane formed by the receiver elements [col. 9, lines 47-56 of Anderton et al.].

Consider claim 13, the modified Anderton et al. reference discloses (e.g. figure 1 of Hugenin) a rotating wedge prism in a millimeter-wave imaging system capable of rotating at a rate of 30 Hz [col. 11, lines 18-20 of Hugenin].

Consider claims 15-18, the modified Anderton et al. reference discloses (e.g. figures 7 and 8 of Anderton et al.) an apparatus wherein the focusing means is a reflector lens (19, reflector lens) that comprises a first polarising element (20, polarizing reflector element) and a second polarising element (e.g. element 22) arranged to reflect radiation transmitted by the first polarising element and the reflector lens comprises a polarization altering element (e.g. element 21) [col. 9, lines 1-25 of Anderton et al.].

Consider claim 19, the modified Anderton et al. reference discloses (e.g. figure 9 of Anderton et al.) an apparatus wherein the scanning means (e.g. rotating disks of Anderton et al.), which is arranged to define an entrance pupil of the apparatus, is placed at the effective center of curvature of the focusing means (19, reflector lens) [col. 9, lines 36-46 of Anderton et al.].

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **JADE R. CALLAWAY** whose telephone number is (571)272-8199. The examiner can normally be reached on Monday to Friday 6:00 am - 3:30 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRC
/JADE R. CALLAWAY/
Examiner, Art Unit 2872

/Stephone B. Allen/
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Art Unit 2872